Risk and Protective Factors of Disordered Eating in Gay Men, Lesbian Women, and Transgender and Nonconforming Adults

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Except where due reference is made in the text, this thesis is my own original work. It has not been submitted for any other degree, or diploma at any university.

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Title: Risk and Protective Factors of Disordered Eating in Gay Men, Lesbian Women, and Transgender and Nonconforming Adults

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Abstract

Objective: This study aimed to compare the prevalence of eating disorder (ED) attitudes and behaviours between gay men, lesbian women, and transgender and nonconforming (TGNC) adults. The study further sought to identify and compare the risk and protective factors, and examined a mediational model based on the interpersonal theory of eating disorders, whereby the association between interpersonal factors and disordered eating would be mediated by psychological constructs pertaining to the self and negative affect.

Method: Data was obtained from a larger national study of health risk and protective factors among sexual minority and gender diverse populations. The present study included 97 gay men, 82 lesbian women, and 138 TGNC adults. Participants completed the Eating Disorders Screen for Primary Care, Patient Health Questionnaire Depression scale, Generalized Anxiety Disorder 7 scale, Self-Compassion Scale-Short Form, Negative Social Exchange subscale of the Multidimensional Health Profile, Interpersonal Needs Questionnaire, and Perceived Stigma Scale.

Results: There was a significant difference between groups in possible ED caseness, with the lowest prevalence in gay men (47.6%) and the highest prevalence in lesbian women (66.7%). There was a low prevalence of inappropriate compensatory behaviours (self-induced vomiting, laxative misuse or diet pill use), with no significant difference in prevalence between groups. There was a significant difference between groups in weight-based self-worth, with the lowest prevalence in gay men (63%) and the highest prevalence in lesbian women (82%), and satisfaction with eating patterns, with the lowest prevalence in TGNC adults (30.2%) and highest prevalence in gay men (52.3%). Logistic regression analyses showed that possible ED caseness in gay men was predicted by depression, perceived stigma, and self-compassion; in lesbian women by depression; and in the TGNC group by self-

compassion. Mediation analyses showed that thwarted belongingness and perceived stigma had an indirect relationship with possible ED caseness that was mediated by self-compassion and depression (for perceived stigma alone) in gay men, depression in lesbian women and self-compassion in TGNC adults.

Discussion: The interpersonal theory of eating disorders partially extends to sexual minority and gender diverse populations, however, the results suggest that theoretical models and treatment programs need to be extended to include the role of stigma and self-compassion.

Keywords: eating disorders, sexual minority and gender diverse, self-compassion, stigma, interpersonal, LGBTQ

Risk and Protective Factors of Disordered Eating in Gay Men, Lesbian Women, and Transgender and Nonconforming Adults

Eating disorders are serious conditions and are "characterised by a persistent disturbance of eating or eating-related behaviour that results in the altered consumption or absorption of food and that significantly impairs physical health or psychosocial functioning" (American Psychiatric Association [APA], 2013, p. 329). A core diagnostic feature of most eating disorders is that concerns about weight and shape unduly influence a person's self-worth (APA, 2013). Behavioural features of eating disorders include extreme dieting, binge eating episodes, and inappropriate compensatory behaviours such as self-induced vomiting, laxative or diuretic misuse, misuse of other medication (e.g., diet pills), fasting, or excessive exercise (APA, 2013). A review of epidemiological studies reported the lifetime prevalence of anorexia nervosa as approximately one percent, and two percent for bulimia nervosa among women, and an estimated lifetime prevalence of two percent for binge-eating disorder across males and females (Smink, van Hoeken, & Hoek, 2013). Five-year recovery rates have been reported as 40 to 50% for anorexia nervosa, depending on how recovery was defined in the study, with approximately 20% developing a chronic course, and 55% for bulimia nervosa, underscoring their chronicity for many affected individuals (Smink et al, 2013; Steinhausen, 2002; van Son, van Hoeken, van Furth, Donker, & Hoek, 2010).

Research has sought to identify risk and protective factors to enable early intervention and thereby reduce chronicity. Among the most common risk factors that have been identified to date are shape and weight concerns, internalisation of the thin ideal, and social pressure to be thin (Hilbert et al., 2014; Stice, 2002; Stice, Marti, & Durant, 2011; Striegel-Moore & Bulik, 2007), dietary restraint (Hilbert et al., 2014; Stice et al., 2011), a family history of disordered eating (Hilbert et al., 2014), perfectionism (Hilbert et al., 2014; Stice,

2002; Striegel-Moore & Bulik, 2007), childhood teasing (Hilbert et al., 2014), negative affect (Stice, 2002; Stice et al., 2011), and impulsivity (particularly for binge eating disorder; Hilbert et al., 2014; Striegel-Moore & Bulik, 2007). While protective factors remain relatively underexplored, social support has been found to be one such factor in eating pathology (Stice, 2002; Hilbert et al., 2014; Mason, Lewis, & Heron, 2017; Watson, Veale, & Seawyc, 2017), and emerging evidence suggests that self-compassion may also be relevant in this regard (Braun, Park, & Gorin, 2016).

Diverse theoretical models have been advanced that attempt to account for the emergence and/or maintenance of eating disorders. A systematic review by Pennesi and Wade (2016) concluded that the transdiagnostic cognitive behavioural model (Fairburn, Cooper, & Shafran, 2003) is one of the most robust models as it has been extensively evaluated and has informed efficacious treatment programs. In the core model, over-evaluation of weight and shape drive eating disorder behaviours. Additional processes, including low self-esteem, perfectionism, mood intolerance, and interpersonal difficulties, may also maintain the eating disorder. Fairburn et al. (2003) note that the inclusion of interpersonal difficulties in the extended model arose in part due to evidence that interpersonal psychotherapy (IPT) is effective in the treatment of eating disorders and has, thus, become the therapeutic strategy used to address interpersonal problems when delivering cognitive behaviour therapy for eating disorders (Fairburn, 2008). The IPT model of eating disorders (IPT-ED; Rieger et al., 2010) further develops the understanding of how interpersonal difficulties maintain eating disorders. This model posits that inadequate social interactions (defined as those that share the core feature of entailing real or perceived negative evaluation by others such as an unmet need to belong or negative social exchanges) can lead to disturbances of the self, including low self-esteem and negative affect which, in

turn, trigger and perpetuate eating disorder symptoms. Models of this kind can be used to inform investigations of novel risk and protective factors for disordered eating.

In addition to employing a wider range of theoretical models, the literature on risk and protective factors for disordered eating needs to be expanded in terms of the populations investigated. Specifically, McClain and Peebles (2016) note that much of the research into eating disorders has been with the female, heterosexual, and cisgender population, such that research into sexual minority and gender diverse populations is needed. In fact, early research in sexual minority and gender diverse populations suggests that sexual orientation and gender identity may have a distinct relationship with eating pathology (Feldman & Meyer, 2007). Specifically, in a population study of youth, while the majority had positive body image and did not develop eating concerns, homosexual and bisexual secondary school boys and girls were each more likely to develop purging and diet pill use than their heterosexual counterparts (Austin, Nelson, Birkett, Calzo, & Everett, 2013). This finding of elevated risk extends to adults, with research indicating that homosexual men are at greater risk than heterosexual men for developing disordered eating (Feldman & Meyer, 2010; Striegel-Moore & Bulik, 2007) and have a higher incidence of drive for thinness, body dissatisfaction, and body-image related anxiety (McLain & Peebles, 2016). There is mixed data on the prevalence of disordered eating in lesbian women, with some studies suggesting an increased prevalence of binge eating behaviours relative to heterosexual women (Bayer, Robert-McComb, Clopton, Reich, 2017; Feldman & Meyer, 2010).

Even less research has been conducted on transgender and nonconforming people (TGNC). Following the guidelines of the American Psychological Association (APA; 2015), the umbrella term TGNC refers to those who identify their gender as different from their birth sex (transgender) and/or those who do not follow other people's ideas of how they should appear or behave based on their birth sex (nonconforming), and includes people who identify

as transgender, intersex, genderqueer, or non-binary. A large-scale study of college students by Diemer, Grant, Munn-Chernoff, Patterson, and Duncan (2015) found that the prevalence of self-reported disordered eating and inappropriate compensatory behaviour was higher among transgender students than cisgender homosexual or heterosexual students. In contrast to their cisgender counterparts, McClain and Peebles (2016) note that, in transgender youth, the risk of disordered eating may be secondary to gender dysphoria and, hence, might be best alleviated with strategies to ameliorate gender dysphoria, including social transition, puberty blockers, cross-sex hormones and gender affirmation surgery. For example, weight loss strategies among transgender people may be a means to inhibit undesired, or develop desired, gender features (Diemer et al., 2015; Watson, Veale, et al., 2017). The assertion that disordered eating in this population is secondary to gender dysphoria is supported in a review of body dissatisfaction and disordered eating in transgender people by Jones, Haycraft, Murjan, and Arcelus (2016). This review found that body dissatisfaction, particularly related to gender dysphoria, is central to the distress experienced by trans men and women, and contributes to increased risk of disordered eating. Accordingly, the review also found that body satisfaction and body image improved after hormone or surgical treatments targeting gender dysphoria.

In summary, much of the previous research has investigated risk and protective factors within a particular group (primarily heterosexual and cisgender girls and women) and has failed to consider sexual minority and gender diverse groups, or has generalised across diverse sexual minority and gender diverse populations. Moreover, research that has addressed eating disorders in sexual minority and gender diverse sub-groups has focused primarily on the prevalence of eating disorder symptoms rather than investigating risk and protective factors in sexual minority and gender diverse sub-groups. This neglect is noteworthy since it cannot be assumed that the same aetiological factors, and hence treatment

approaches, are relevant across diverse groups. Indeed, as previously highlighted, it has been proposed that mainstream theoretical and intervention approaches may not be relevant for TGNC people for whom eating disorder symptoms might be primarily driven by gender dysphoria, and that are therefore ameliorated through interventions that target this dysphoria.

The need for examining novel constructs in understanding the emergence of eating disorder symptoms among sexual minority and gender diverse groups is underscored by research into the determinants of health within this population, which notes that this community faces additional and unique stressors, such as stigma and minority stress, that impact on health outcomes (Hatsenbuehler & Pachankis, 2016). Mickelson (2001) posits that perceived stigma (i.e., a person's perception of stigma toward them) has a greater impact on social support and depression than the actual stigma toward an individual. Perceived stigma has been shown to account for increased depression in sexual minority and gender diverse populations (Almeida, Johnson, Corliss, Molnar, & Azreal, 2009; Lewis, Derlega, Griffin, & Krowninski, 2003). Wang and Borders (2016) found that perceived discrimination uniquely predicted disordered eating in a sample of 116 sexual minority individuals. A comparable relationship was observed by Watson, Veale, et al. (2017) whereby the risk of disordered eating in transgender youth was related to stigma, and this risk was reduced by higher levels of perceived social support. Similarly, Mason et al (2017) found that among lesbian young women, sexual orientation discrimination had an indirect role on disordered eating. More specifically, sexual orientation discrimination was related to social support from family, which in turn was related to increased negative affect and social anxiety. Negative affect and social anxiety were in turn directly related to disordered eating. This finding therefore provides support for the interpersonal model of eating disorders, in that inadequate interpersonal interactions may increase negative affect, thereby increasing the risk of disordered eating.

While perceived stigma may be an eating disorder risk factor that is particularly relevant to sexual minority and gender diverse populations, self-compassion may be uniquely protective in this group as it may help to protect against stigmatising experiences. Neff (2003) defines self-compassion as encompassing three elements: self-kindness (i.e., "extending kindness and understanding to oneself rather than harsh judgement and self-criticism" [p. 89]), common humanity (i.e., "seeing one's experiences as part of the larger human experience rather than seeing them as separating and isolating" [p. 89]), and mindfulness (i.e., "holding one's painful thoughts and feelings in balanced awareness rather than over-identifying with them" [p. 89]). Previous research has found that self-compassion mediates the relationship between bias-based bullying and mental health symptoms in sexual minority youth (Vigna, Poehlmann-Tynan, & Koenig, 2017) and self-compassion is positively related to well-being in gay men and TGNC adults (Beard, Eames, & Withers, 2017; Keng & Liew, 2017). Research more broadly has investigated the role of self-compassion as a protective factor in mental health outcomes. Neff (2003) suggests that self-compassion plays an adaptive role in the transdiagnostic construct of emotion regulation, thereby promoting health outcomes. Consistent with this, a meta-analysis by MacBeth and Gumley (2012) found a large effect size in the relationship between self-compassion and psychopathology. While this meta-analysis focused on depression, anxiety, and stress, it provides a rationale for exploring the association of self-compassion with eating disorder symptoms, as studies have begun to do (Braun et al., 2016). For example, Geller, Srikameswaran, and Zelichowska (2015) found that self-compassion accounted for unique variance in shape and weight concerns and disordered eating in a community sample of women. Similarly, Tylka, Russell, and Neal (2015) found that women who were higher in self-compassion perceived lower thinness-related pressure, particularly from the media. The role of self-compassion has also been supported in clinical samples of people with eating

disorders. For instance, a study by Kelly and Tasca (2016) explored the relationship between self-compassion, shame, and eating disorder symptoms among eating disorder patients over the course of day hospital or inpatient treatment. The authors found that, over the course of treatment, patients who had higher levels of self-criticism (or were low on self-compassion) had higher levels of shame and more severe eating disorder symptoms.

The present study aims to investigate and compare the prevalence of eating disorder symptoms (including maladaptive weight control behaviours, dissatisfaction with eating patterns, eating in secret, and weight-based self-worth) and possible eating disorder caseness in gay cisgender men (gay men), lesbian cisgender women (lesbian women), and TGNC adult populations. Although eating disorder symptoms are elevated in homosexual relative to heterosexual men, eating disorders are nevertheless predominantly female conditions (APA, 2013). Hence it is hypothesised that lesbian women will demonstrate higher eating disorder symptoms than gay men. Consistent with the findings of Diemer et al. (2015), it is hypothesised that TGNC adults will have the highest prevalence of disordered eating compared to gay men and lesbian women.

The study also aims to investigate and compare psychological (i.e., depression, anxiety, self-compassion) and interpersonal (i.e., perceived stigma, negative social exchange, and thwarted belongingness) risk and protective factors of disordered eating between these groups. Given the unique contribution of minority stress among the sexual minority and gender diverse population, it is hypothesised that perceived stigma will emerge as a factor positively related to disordered eating, while self-compassion will have an inverse relationship with disordered eating. In accordance with the interpersonal model of eating disorders, it is further hypothesised that inadequate social interactions, as measured by thwarted belongingness, negative social exchange, and perceived stigma, will have an indirect relationship with possible eating disorder caseness that is mediated by negative affect

and (lower) self-compassion. Finally, since research supports the notion that disordered eating among the transgender population is secondary to gender dysphoria, it is hypothesised that the risk and protective factors of disordered eating in this group will differ from those of cisgender gay men and lesbian women.

Method

Participants

Participants in the present study (n = 267) were recruited as part of a national study (N = 496) conducted by the Laboratory for Resilience in Psychological and Physical Health in Johnson City, USA, investigating risk and protective factors for mental and physical health in sexual minority populations (Hirsch et al., 2017). Ethical permission was obtained from the Institutional Review Board of East Tennessee State University.

In the current study, those who identified their birth sex and gender identity as male, and sexual orientation as homosexual, were grouped as “gay men”. Those who identified their birth sex and gender identity as female, and sexual orientation as homosexual, were grouped as “lesbian women”. Participants who indicated that their gender identity was different from their birth sex (n = 26), who identified as transgender male to female (n = 14), transgender female to male (n = 21), gender queer (n = 21), gender-fluid (n = 8), non-binary (n = 17), agender (n = 6), two-spirit (n = 5), intersex (n = 2), or other (n = 18) were collectively grouped as “TGNC” so as to maximise power. The final sample was comprised of 97 gay men (mean age = 42.54, SD = 17.19; 74.5% Caucasian), 82 lesbian women (mean age = 38.64, SD = 17.65; 84.5% Caucasian), and 138 TGNC adults (mean age = 33.60, SD = 16.80; 83.3% Caucasian). Within the TGNC group, 46 identified their sex assigned at birth as male, 89 as female, and three declined to answer.

Measures

A demographics questionnaire was administered that asked participants to identify their age, sex at birth (male, female), gender identity (male, female, transgender male to female, transgender female to male, gender queer, gender-fluid, non-binary, agender, two-spirit, intersex, or other), ethnicity, and sexual orientation (homosexual, heterosexual/straight, bisexual, pansexual, asexual, queer, or other). In addition, each of the following measures (as shown in the appendices) were administered.

National College Health Assessment (NCHA; American College Health Association, 2014). The weight management item from the NCHA was included to assess maladaptive weight control behaviours. Participants were asked whether they had done any of the following in the last 30 days: exercised, dieted, vomited/taken laxatives, or taken diet pills to lose weight. Exercise and dieting to lose weight were not included in this study as there was no way to determine if these behaviours were disordered by being excessive or inappropriate.

Eating Disorders Screen for Primary Care (ESP; Cotton, Ball, and Robinson, 2003). The ESP is a five-item screen for eating disorders. Respondents answer yes or no to items such as: “are you satisfied with your eating patterns?”, “do you ever eat in secret”, and “does your weight affect the way you feel about yourself?”. The item assessing satisfaction with eating patterns was reverse scored to obtain the total ESP score. To define eating disorder caseness, the present study used a cut-off score of two, excluding the original item, “Have any members of your family suffered with an eating disorder?”, as recommended by Cotton et al. (2003). This score has been found to yield a sensitivity of 100% and specificity of 71%. Cronbach’s alphas for each group were .66 in gay men, .67 in lesbian women, and .57 in TGNC adults.

Patient Health Questionnaire Depression scale (PHQ-9; Kroenke, Spitzer, & Williams, 2001). The PHQ-9 is a nine-item measure of depression over the previous two-

week period. Items align with the *DSM-IV-TR* diagnostic criteria of depression (e.g., "feeling down, depressed, or hopeless" and "feeling tired or having little energy") and are rated on a four-point Likert scale ranging from 0 (*not at all*) to 3 (*nearly every day*). The PHQ-9 has demonstrated high internal consistency (Cronbach's α = 0.86 to 0.89) and construct validity (Kroenke et al., 2001; Martin, Rief, Klaiberg, & Braehler, 2006). Cronbach's alphas for each group were .86 in gay men, .90 in lesbian women, and .93 in TGNC adults.

Generalized Anxiety Disorder 7 (GAD-7; Spitzer, Kroenke, Williams, & Lowe, 2006). The GAD-7 is a seven-item self-report measure that assesses the frequency of GAD symptoms over the preceding two-week period. The items align with *DSM-IV* criteria for GAD (e.g., "feeling nervous, anxious or on edge" and "worrying too much about different things"). Responses are rated on a four-point Likert scale ranging from 0 (*not at all*) to 3 (*nearly every day*). The scale demonstrates high internal consistency (Cronbach's α = .92) and test-retest reliability (*r* = .83) (Spitzer et al., 2006). A systematic review found that the GAD-7 was the best performing test in the assessment of GAD (Herr et al., 2014). Cronbach's alphas for each group were .92 in gay men, .93 in lesbian women, and .90 in TGNC adults.

Self-Compassion Scale-Short Form (SCS; Raes, Pommier, Neff, & Van Gucht, 2011). The SCS is a 12-item self-report scale that asks respondents to rate on a five-point Likert scale (1 = *almost never*, 5 = *almost always*) how they typically act towards themselves in difficult times (e.g., "When I'm going through a hard time, I give myself the caring and tenderness I need"). The scale demonstrates good internal consistency and is highly correlated with the long version (Raes, Pommier, Neff, & Van Gucht, 2011). Cronbach's alphas for each group were .90 in gay men, .91 in lesbian women, and .89 in TGNC adults.

Negative Social Exchange subscale of the Multidimensional Health Profile: Psychological Functioning (MHP-P; Ruehlamn, Lanyon, & Karoly, 1999). Negative

social interactions were measured by the four-item Negative Social Exchange subscale of the MHP-P. Items such as “Over the past year, how often were you close friend or close family angry, hostile, or impatient with you” are scored on a five-point Likert scale (1 = *never*, 5 = *very often*). This subscale has demonstrated good test-retest reliability (r = 0.77) as well as construct validity (Ruehlman, Lanyon, & Karoly, 1999). Cronbach’s alphas for each group were .83 in gay men, .91 in lesbian women, and .85 in TGNC adults.

Interpersonal Needs Questionnaire (INQ; Van Orden, Cukrowicz, Witte, & Joiner, 2012). The INQ is a 15-item self-report scale that includes the subscales of thwarted belongingness (nine items) and perceived burdensomeness (six items). Items are rated on a seven-point Likert scale ranging from 1 (*not at all true for me*) to 7 (*very true for me*). Only items from the Thwarted Belongingness subscale, which measures an unmet need to belong (e.g., “These days, other people care about me”), were used in the study, as this subscale alone has demonstrated a significant correlation with disordered eating (Silva, Ribeiro, & Joiner, 2015). Cronbach’s alphas for each group on the thwarted belongingness subscale were .91 in gay men, .91 in lesbian women, and .90 in TGNC adults.

Perceived Stigma Scale (PSS; Mickelson, 2001). The PSS is an eight-item self-report questionnaire that was adapted from a scale assessing perceived stigma among parents of children with special needs (Mickelson, 2001). The adapted items for this study ask respondents to rate their own, and their perception of other people’s, attitudes and feelings about the respondent’s sexual orientation on a five-point Likert scale from 1 (*definitely disagree*) to 5 (*definitely agree*). Example items include, “People have treated me differently because of my sexual orientation” and “I have felt odd/abnormal” because of my sexual orientation”. The original scale has demonstrated adequate internal consistency and test-retest reliability (Mickelson, 2001). Cronbach’s alphas for each group were .86 in gay men, .81 in lesbian women, and .77 in TGNC adults.

Procedure

The research was advertised as a study investigating resilience and health-related quality of life in the LGBTQ community on the website of the Laboratory for Resilience in Psychological and Physical Health in Johnson City, USA, as well as support organisations and social media (Hirsch et al., 2017). Participants self-selected to take part in the study and completed each of the measures online using SurveyMonkey. Participation was voluntary and there was no remuneration or compensation for participation. Participants were provided with the details of mental health resources when they completed the survey.

Statistical Analysis

Analysis was conducted using SPSS-version 22. Possible eating disorder caseness was coded as a dichotomous variable where an ESP score of two or more represented possible eating disorder caseness (Cotton et al., 2003). While there was no difference between groups in terms of ethnicity (Caucasian versus non-Caucasian; $\chi^2(2) = 4.97$, $p = .08$), there was a significant main effect for age ($F(2, 314) = 8.88$, $p < .001$), with Tukey HSD post hoc analysis indicating that gay men were significantly older than TGNC adults ($p < .001$). As such, age was controlled for in all analyses that compared groups. Logistic regressions were conducted to calculate odd ratios (*OR*) and 95% confidence intervals (CI) to examine whether there were significant differences between groups for the dichotomous variables, namely, prevalence of disordered eating as measured by possible eating disorder caseness, and the presence of inappropriate compensatory behaviours, dissatisfaction with eating patterns, eating in secret, and weight-based self-worth, while controlling for age. These were conducted firstly with gay men, and then again with TGNC adults as the reference groups to enable all possible significant differences to be detected. One-way analyses of variance (ANOVA) were conducted to compare the means for each predictor variable (depression, anxiety, self-compassion, negative social exchange, and thwarted

belongingness) between groups, with post hoc comparisons using the Tukey HSD test. Pearson correlations were performed for each predictor variable (depression, anxiety, self-compassion, negative social exchange, and thwarted belongingness) to check for multicollinearity, of which there was none (as shown in the Appendix C). Logistic regressions were conducted to identify which variables significantly predicted possible eating disorder caseness for each group. Based on the results of the correlations and logistic regressions, mediation analyses were conducted using the PROCESS macro for SPSS version 22 (Hayes, 2013), with bootstrapping techniques (10000 resamples) to determine 95% confidence intervals, as this macro is capable of calculating mediation effects for dichotomous outcome variables. Missing data were excluded pairwise from all the analyses. An alpha level of .05 was used for all analyses.

Results

Prevalence of Eating Disorder Symptoms and Eating Disorder Caseness Across Groups

The prevalence of endorsed eating disorder behaviours and attitudes across groups is shown in Table 1. There was a significant difference in the prevalence of possible eating disorder caseness between groups, with lesbian women being more likely than gay men to have an ESP score of two or more (*OR*, 2.09; 95% CI, 1.08-4.05). There was a low prevalence of the inappropriate weight control behaviours of taking diet pills or vomiting/taking laxatives to lose weight in the previous 30 days, with no significant difference between groups for diet pill use or vomiting/laxative use. Nor was there a significant difference between groups for eating in secret. However, there was a significant difference between groups in terms of weight-based self-worth, with lesbian women being more likely than gay men (*OR*, 2.52; 95% CI, 1.19-5.37) and TGNC adults (*OR*, 2.44; 95% CI, 1.17-5.09) to endorse this item. There was also a significant group difference for

satisfaction with eating patterns, with the TGNC adults being more likely to be satisfied with their eating patterns than gay men (*OR*, 2.30; 95% CI, 1.27-4.19).

Table 1

Number (Percentage) of Participants Who Endorsed Eating Disorder Attitudes/Behaviours and Met the Cut-off for Eating Disorder Caseness

	Gay men		Lesbian women		TGNC adults	
	n	Frequency	*n*	Frequency	*n*	Frequency
Possible eating disorder caseness (ESP = 2+)	84	40 (47.6%)	72	48 (66.7%)[c]	115	72 (62.6%)
Eating in secret	86	20 (23.3%)	72	23 (31.9%)	115	26 (22.6%)
Weight affects the way they feel about themselves	84	53 (63.1%)	72	59 (81.9%)[a]	116	78 (67.2%)
Satisfied with eating patterns	86	41 (47.7%)	72	45 (62.5%)	116	81 (69.8%)[b]
Used diet pills	83	2 (2.4%)	67	3 (4.5%)	118	3 (2.5%)
Vomited or took laxatives	83	1 (1.2%)	67	1 (1.5%)	118	3 (2.5%)

Note. TGNC = Transgender and Nonconforming; ESP = Eating Disorders Screen for Primary Care; [a]Significantly different to gay men and TGNC adults; [b]Significantly different to gay men; [c]Significantly different to gay men.

Predictors of Possible Eating Disorder Caseness Across Groups

Scores on each of the predictor variables across groups are shown in Table 2. One-way between group analysis of variance (ANOVA) showed that there were significant differences between groups on each of the variables at the $p < .001$ level. Post hoc comparisons using the Tukey HSD test indicated that gay men had significantly lower anxiety and negative social exchange mean scores than both lesbian women and TGNC adults. TGNC adults had significantly higher mean scores than gay men and lesbian women for depression, perceived stigma, negative social exchange, and significantly lower mean self-compassion scores.

Logistic regressions were performed to investigate the predictors of possible eating disorder caseness for each group, as shown in Table 3. The factors that were significantly associated with possible eating disorder caseness in gay men were depression, perceived stigma, and (inversely) self-compassion. In lesbian women, only depression was significantly associated with possible eating disorder caseness, although there was a trend for anxiety as a significant predictor at the $p = .10$ level. Within the TGNC group, only self-compassion was significantly, inversely associated with possible eating disorder caseness.

Table 2

Comparison of Mean Scores on the Predictor Variables Between Groups

Variable	Gay men			Lesbian women			TGNC adults			*F*(df)
	n	Mean	*SD*	*n*	Mean	*SD*	*n*	Mean	*SD*	
Depression (PHQ-9)	84	5.98	5.02	68	8.18	6.25	114	11.71[a]	7.32	20.20 (2, 265)
Anxiety (GAD-7)	87	5.70[a]	5.22	69	8.26	5.96	119	9.95	5.63	14.53 (2, 272)
Negative social exchange (MHP-P)	82	7.66[a]	3.43	69	9.28	4.39	116	10.12[a]	4.04	9.33 (2, 264)
Thwarted belongingness (INQ)	84	22.24	11.98	65	22.66	11.06	108	30.99	12.75	15.74 (2, 254)
Perceived stigma (PSS)	79	27.35	7.81	64	26.75	7.25	105	31.52[a]	6.00	12.51 (2, 245)
Self-compassion (SCS)	81	37.96	10.08	59	36.59	9.89	104	31.60[a]	9.13	11.14 (2, 243)

Note. TGNC = Transgender and Nonconforming; PHQ-9 = Patient Health Questionnaire Depression Scale; GAD-7 = Generalized Anxiety Scale; MHP-P = Negative Social Exchange subscale of the Multidimensional Health Profile: Psychological Functioning; INQ = Thwarted belongingness subscale of the Interpersonal Needs Questionnaire; PSS = Perceived Stigma Scale; SCS = Self-Compassion Scale – Short Form; [a]Post hoc comparison using the Tukey HSD test indicating significance at the $p < .05$ level

Table 3

Logistic Regression Testing Predictors of Eating Disorder Caseness Across Groups

	Gay men (n = 67)			Lesbian women (n = 50)			TGNC adults (n = 91)		
Variable	B	*OR*	95% CI	B	*OR*	95% CI	B	*OR*	95% CI
Depression (PHQ-9)	.223*	1.25	[1.00, 1.56]	.313*	1.37	[1.04, 1.79]	-.011	0.99	[0.89, 1.10]
Anxiety (GAD-7)	-.004	1.00	[0.83, 1.20]	-.220	0.80	[0.63, 1.02]	.023	1.02	[0.89, 1.17]
Self-compassion (SCS)	-.098*	0.91	[0.83, 0.99]	-.059	0.94	[0.86, 1.04]	-.109**	0.90	[0.84, 0.96]
Negative social exchange (MHP-P)	.032	1.03	[0.84, 1.28]	.147	1.16	[0.92, 1.46]	-.007	0.99	[0.87, 1.14]
Thwarted belongingness (INQ)	-.051	0.95	[0.88, 1.03]	-.032	0.97	[0.87, 1.07]	-.007	0.99	[0.94, 1.04]
Perceived stigma (PSS)	.109*	1.12	[1.00, 1.24]	-.039	0.96	[0.87, 1.08]	.031	1.03	[0.95, 1.12]
Constant	-.002	1.00		2.52	12.45		3.05	21.03	

Note. OR = odds ratio; CI = confidence interval; TGNC = Transgender and Nonconforming; PHQ-9 = Patient Health Questionnaire Depression Scale; GAD-7 = Generalized Anxiety Scale; SCS = Self-Compassion Scale – Short Form; MHP-P = Negative Social Exchange subscale of the Multidimensional Health Profile: Psychological Functioning; INQ = Thwarted belongingness subscale of the Interpersonal Needs Questionnaire; PSS = Perceived Stigma Scale; *p < .05 **p < .01.

Mediation analyses were performed to investigate whether the psychological factors that predict possible eating disorder caseness mediate the effect of interpersonal factors on disordered eating. Depression and self-compassion significantly predicted possible eating disorder caseness in the gay men group, depression in the lesbian women group, and self-compassion in the TGNC adults. As such, these psychological variables were included in the mediation analyses for each group. Given the small sample size, only thwarted belongingness, which had the largest correlations with depression and self-compassion in gay men, depression in lesbian women, and self-compassion in the TGNC group, was included as a representative interpersonal factor, in the simple mediation analysis. As shown in Table 4, there was a significant indirect effect between thwarted belongingness and possible eating disorder caseness that was mediated by depression in lesbian women and lower self-compassion in gay men and TGNC adults. Mediation analysis was also performed to examine whether perceived stigma had an indirect relationship with possible eating disorder caseness. As shown in Table 4, there was a significant indirect effect between perceived stigma and possible eating disorder caseness for each group. Perceived stigma was mediated by depression and self-compassion in gay men, by depression in lesbian women, and by self-compassion in TGNC adults.

Table 4

Direct and Indirect Effects of Thwarted Belongingness and Perceived Stigma on Eating Disorder Caseness Across Groups

	n	Effect	*SE*	95% CI
Gay Men				
TB ► ED	74	-0.033	0.034	[-0.100, 0.035]
TB ►Dep ► ED	74	0.053	0.033	[-0.004, 0.121]
TB ► SC ► ED	74	0.047	0.022	[0.014, 0.094]
PS ►ED	71	0.110	0.051	[0.010, 0.209]
PS ►Dep ► ED	71	0.038	0.025	[0.005, 0.100]
PS ► SC ► ED	71	0.042	0.027	[0.005, 0.108]
Lesbian Women				
TB ►ED	58	0.007	0.038	[-0.067, 0.081]
TB ►Dep ► ED	58	0.068	0.038	[0.011, 0.158]
PS ►ED	55	-0.011	0.046	[-0.100, 0.078]
PS ► Dep ► ED	55	0.056	0.034	[0.013, 0.138]
TGNC Adults				
TB ►ED	96	-0.017	0.020	[-0.057, 0.023]
TB ► SC ► ED	96	0.034	0.014	[0.013, 0.069]
PS ►ED	97	0.034	0.040	[-0.044, 0.113]
PS ► SC ► ED	97	0.040	0.023	[0.007, 0.100]

Note. CI = confidence interval; Dep = depression TB = thwarted belongingness; PS = perceived stigma; SC = self-compassion; ED = possible eating disorder caseness; TGNC = Transgender and Nonconforming.

Discussion

This study aimed to build on the previous, albeit limited, research base to investigate

the prevalence of eating disorder symptoms among gay men, lesbian women, and a TGNC population. Moreover, the study sought to identify and compare the risk and protective factors of disordered eating in these populations, and to examine the interpersonal theory of eating disorders, which posits that psychological factors related to the self and negative affect would mediate the association between negative, socially-evaluative interpersonal factors and eating disorder symptoms.

Even though previous literature has reported an elevated prevalence of inappropriate compensatory behaviours among sexual and gender minority populations, this was less evident in the current sample. Specifically, Diemer et al. (2015) found in a sample of over 280 000, mostly college students, that the highest prevalence of diet pill use misuse and self-induced vomiting/laxative use, as assessed by the same item used in the present study, was among transgender participants, and elevated in homosexual men and women, compared to heterosexual men and women. In contrast to these findings, less than three percent of the total sample in the present study endorsed taking diet pills to lose weight, and less than two percent endorsed vomiting or taking laxatives to lose weight. The vast majority of prevalence data regarding disordered eating behaviours in sexual minority and gender diverse populations is for adolescents and young adult populations (Calzo, Blashill, Brown, & Argenal, 2017). Given that the prevalence of maladaptive weight control behaviours decreases with age (Keel, Gravener, Joiner, & Haedt, 2010; Mond & Hay, 2007), the lower prevalence rates in the present study may have been contributed to by age differences, as the median age of participants in the Diemer et al. study was 20 years, compared with a mean age in the present study of 38 years.

A more frequent type of disordered eating in the present sample was eating in secret,

which was endorsed by 25.9% of the total sample. Even more common was weight-based self-worth, with lesbian women reporting the highest rate. Although the current body of literature regarding body image concerns in sexual minority and gender diverse women remains inconclusive (Bankoff & Pantalone, 2014), our finding that lesbian women had the highest rate of weight-based self-worth provides evidence that a lesbian sexual orientation may not necessarily protect women from body image concerns, as proposed by early theorists such as Siever (1994).

Related to their higher levels of weight-based self-worth - the core cognitive dysfunction of eating disorders (Fairburn et al., 2003) - the hypothesis that there would be a higher prevalence of eating disorder caseness in lesbian women, compared to gay men, was supported. Indeed, contrary to the hypothesis that the highest prevalence would be in TGNC adults, eating disorder caseness was most common in lesbian women (66.7%), followed by the TGNC group (62.6%), and with gay men having the lowest prevalence (47.6%). This result supports the well-established finding that eating disorders are predominantly female conditions (Hudson, Hiripi, Pope, & Kessler, 2007), even within sexual and gender minority populations. The high prevalence of possible eating disorder caseness in this sample compared to previously reported prevalence rates (APA, 2013) may be due, in part, to the fact that eating disorder casesness was defined using the ESP, which is a screening, rather than a diagnostic, tool. Using a cut-off score of two or more, as suggested by Cotton et al. (2003) has a specificity of 71% such that the ESP overestimates eating disorder caseness.

Despite having the lowest prevalence of possible eating disorder caseness and weight-based self-worth in this sample, gay men reported the lowest satisfaction with their eating patterns, compared to lesbian women and TGNC adults. Previous research (Brennan, Craig,

& Thompson, 2012; Kimmel & Mahalik, 2005) has supported the notion of an elevated drive for muscularity within male sexual minority populations. While the present study did not investigate muscularity ideals, the finding of higher dissatisfaction with eating among gay men may reflect a greater dissonance between actual and ideal eating patterns to achieve a more muscular physique, compared to lesbian women and TGNC adults.

As hypothesised, the variables that predicted eating disorder caseness differed between the groups. Consequently, it cannot be assumed that variables have a comparable association with eating disorders across populations of diverse gender and sexual orientations. Negative mood predicted eating disorder caseness among gay men (depression) and lesbian women (depression and, marginally, anxiety). The predictive role of negative affect for eating disorder caseness among both gay men and lesbian women is consistent with the large body of theoretical (e.g., Fairburn et al, 2003; Rieger et al., 2010; Stice, 2002) and empirical (e.g., Hilbert et. al., 2014; Stice et al, 2011) work implicating affective disturbance in the aetiology of eating disorders. The fact that this prominent construct was not predictive of eating disorder symptoms in the TGNC group provides some support for the notion that the aetiology of eating pathologies in this population may be driven more so by gender dysphoria than general affective disturbance, resulting in these individuals seeking bodily modifications that are more consistent with their gender.

Mood disturbance was, in fact, the only predictor of eating disorder caseness among the lesbian women suggesting that problems such as emotional eating may be especially

prominent among females, as indeed the research suggests (Larsen, van Strien, Eisinga, & Engels, 2006; Tanofsky, Wilfley, Spurrell, Welch, & Brownell, 1997). Past research also indicates that binge eating is the main feature of disordered eating among lesbian women (Bayer et al., 2017; Feldman & Meyer, 2010). Since binge eating behaviours are associated with affect regulation (Stice, 2002), including among lesbian and bisexual women (Bayer et al., 2017), this may have contributed to the prominence of negative affect in predicting eating disorder caseness among our sample of lesbian women.

Results supported the prediction that perceived stigma would emerge as an additional risk factor for eating disorder symptoms in this sexual minority sample. Perceived stigma was found to have a direct relationship with possible eating disorder caseness for the gay men, and a significant indirect relationship with possible eating disorder caseness in gay men, lesbian women, and TGNC adults. This indirect relationship was mediated by depression and self-compassion in gay men, depression in lesbian women, and by self-compassion in TGNC adults. These findings provide further support for the deleterious effect that stigma has on mental health outcomes in sexual and gender minority populations (Hatzenbuehler & Pachankis, 2016) as well as being a risk factor for eating disorders and associated health risks within this population (Mason et al, 2017; Pachankis, 2015; Wang & Borders, 2016).

It was further expected that self-compassion might be especially relevant as a potential protective factor for eating disorder casneness in this sexual minority and gender diverse sample, as it may function to protect the individual against the adverse consequences of stigmatising environments. Partial support was found for this, in that eating disorder caseness was predicted by lower levels of self-compassion in the gay men and TGNC adults.

Evidence for the role of self-compassion is emerging (Braun et al., 2016), with the results of the present study supporting the need for further investigating the inclusion of self-compassion into existing models of eating disorders and therapeutic approaches. For instance, a review of third wave therapies in the treatment of eating disorders found that Compassion Focused Therapy (CFT) performed better than treatment-as-usual in two pilot studies (Linardon, Fairburn, Fitzsimmons-Craft, Wilfley, & Brennan, 2017). The results of the present study also support further investigation of the role of self-compassion within sexual minority and gender diverse groups, and its interaction with stigma, in the development of theoretical and therapeutic models of mental health (Pachankis, 2015).

Despite higher levels of depression, anxiety, negative social exchange, thwarted belongingness, perceived stigma, and lower levels of self-compassion in the TGNC group compared to gay men and lesbian women, self-compassion was the only variable that uniquely predicted possible eating disorder caseness in the TGNC group. The finding that eating disorder caseness was predicted by self-compassion alone again suggests that, in this population, disordered eating is not primarily a means of affect regulation as proposed by theoretical models of eating disorders and, instead, provides further support for the notion that disordered eating among the TGNC population may be secondary to body dissatisfaction emerging from a body that is discrepant from one's gender (Jones et al., 2016; McClain & Peebles, 2016). However, the presence of self-compassion as a variable that significantly predicted eating disorder caseness supports a role for psychological interventions, such as CFT, in addition to medical interventions, as has been recommended by Jones et al. (2016) in

their review of body image and disordered eating in TGNC people.

As well as seeking to understand some of the risk and protective factors relevant to the emergence of eating disorder symptoms in a sexual minority and gender diverse sample, the present study also sought to test the interpersonal theory of eating disorders (Rieger et al., 2010). Some support was found for this approach. That is, while interpersonal factors did not have a direct relationship with eating disorder caseness in any group (apart from perceived stigma in the gay men), thwarted belongingness and perceived stigma were found to have an indirect relationship that was mediated by lower self-compassion in the gay men and TGNC groups, and by depression among the lesbian women. The association between perceived stigma and ED caseness was also mediated by depression in the gay men. Thwarted belongingness and perceived stigma are manifestations of negative social evaluation, which is the core interpersonal factor deemed to be relevant for eating disorder symptoms within the interpersonal model of eating disorders (Rieger et al., 2010). According to this model, and supported by the findings, high levels of thwarted belongingness and perceived stigma would trigger disturbances of the self (i.e., lower self-compassion in the present study) and associated negative affect that, in turn, contribute to engagement in disordered eating.

The present findings must be interpreted in the context of several methodological limitations. First, the sample sizes were relatively small and, therefore, only large effect sizes would likely have been detected (Agresti, 2007). Moreover, due to the small sample size of sub-groups within the TGNC group, this group was diverse and included those who identified as non-binary, intersex, trans-males, and trans-females, who may each experience different stressors and be vulnerable to different eating disorder symptoms (e.g., seeking to attain

different body ideals) (Jones et al., 2016; McClain & Peebles, 2016). Second, data was not available to assess for the predictive role of key variables known to be related to eating disorder symptoms, such as perfectionism and low self-esteem, indicating that future research on sexual minority and gender diverse groups should address a wider range of constructs. Third, respondents self-selected to participate in a study advertised as investigating resilience and health-related quality of life in the LGBTQ community, and as such, the findings are subject to non-response bias (e.g., those without an interest in resilience and health-related quality of life in the LGBTQ community choosing not to participate) and thus may not reflect the broader sexual minority and gender diverse community. Finally, the study was cross-sectional in design. As such, prospective and experimental research is needed to substantiate the suggested causal role of risk, protective, and mediator variables identified in the study.

In summary, this study contributes to an understanding of the types of disordered eating, and the risk and protective factors of disordered eating, in sexual and gender minority populations. While the results of this study indicated low levels of maladaptive weight control behaviours (i.e., diet pill use and purging), there was a high prevalence of weight-based self-worth and possible eating disorder caseness within our sample, especially among the lesbian women. There were also differences between groups regarding risk and protective factors of possible eating disorder caseness, which support the notion that disordered eating within TGNC adults might more reflect gender dysmorphia as opposed to traditional risk factors such as negative affect. The results provide evidence of the direct and indirect role of

perceived stigma on disordered eating, highlighting that this is a stressor that eating disorder therapists should be aware of when providing treatment to sexual or gender diverse clients. Moreover, the finding that self-compassion was a significant predictor of possible eating disorder caseness within TGNC adults and, marginally, within gay men supports further investigation into this construct, and treatments that seek to increase this trait, within the field of eating disorders. This study adds to an under-researched area and highlights a novel stressor (i.e., perceived stigma) experienced by sexual minority and gender diverse people that may be a risk factor for disordered eating, as well as adding to the emerging literature regarding the protective nature of self-compassion.

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Appendix A: Author Guidelines

Author Guidelines

GUIDELINE SECTIONS

1. Submission
2. Aims and Scope
3. Manuscript Categories and Requirements
4. Preparing the Submission
5. Editorial Policies and Ethical Considerations
6. Author Licensing
7. Publication Process After Acceptance
8. Post-Publication
9. Journal Contact Details

1. SUBMISSION

Authors should kindly note that submission implies that the content has not been published or submitted for publication elsewhere except as a brief abstract in the proceedings of a scientific meeting or symposium. If there is a related paper under consideration at another journal, a copy of that paper should be submitted with the primary manuscript as supporting information.

Authors should follow the guidelines carefully; failure to do so will delay the processing of the manuscript. **Once the submission has been prepared in accordance with the Author Guidelines, manuscripts should be submitted online at mc.manuscriptcentral.com/ijed**. Authors unfamiliar with ScholarOne can find details on how to use the system here: www.wileyauthors.com/scholarone.
The submission system will prompt the author to use an ORCID iD (a unique author identifier) to help distinguish their work from that of other researchers. Details can be found elsewhere in these guidelines.
For help with submissions, authors should contact the Editorial Office: ijed@wiley.com. When necessary, the Editorial Office staff may refer questions to the Editor-in-Chief or Associate Editors.

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2. AIMS AND SCOPE

The *International Journal of Eating Disorders*—A leading peer-reviewed journal in the fields of psychology, psychiatry, public health, and nutrition & dietetics.
Mission: With a mission to advance the scientific knowledge needed for understanding, treating, and preventing eating disorders, the *International Journal of Eating Disorders* publishes rigorously evaluated, high-quality contributions to an international readership of health professionals, clinicians, and scientists. The journal also draws the interest of patient groups and advocates focused on eating disorders, and many of the articles draw attention from mainstream media outlets.
Scope: Articles featured in the journal describe state-of-the-art scientific research on theory, methodology, etiology, clinical practice, and policy related to eating disorders, as well as contributions that facilitate scholarly critique and discussion of science and practice in the field. Theoretical and empirical work on obesity or healthy eating falls within the journal's scope inasmuch as it facilitates the advancement of efforts to describe and understand, prevent, or treat eating disorders. The *International Journal of Eating Disorders* welcomes submissions from all regions of the world and representing all levels of inquiry (including basic science, clinical

trials, implementation research, and dissemination studies), and across a full range of scientific methods, disciplines, and approaches.

A complete overview of the journal is given elsewhere on the journal's homepage.

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3. MANUSCRIPT CATEGORIES AND REQUIREMENTS

The *International Journal of Eating Disorders* publishes the following contribution types:

1. Original Articles
2. Brief Reports
3. Clinical Case Reports
4. Reviews
5. An Idea Worth Researching
6. Commentaries

When uploading their manuscript, authors will be asked to complete a checklist indicating that they have followed the Author Guidelines pertaining to the appropriate article type. All word limits relate to the body of the text (i.e., not including abstract, references, tables and figures) and represent maximum lengths. Authors are encouraged to keep their manuscript as short as possible while communicating clearly.

1) Original Articles

These contributions report substantive research that is novel, definitive, or complex enough to require a longer communication. Only a subset of research papers is expected to warrant full-length format.

- Word Limit: 4,500 (excluding abstract, references, tables or figures)
- Abstract: 250 words.
- References: 60 are recommended; more are permissible, for cause.
- Figures/Tables: a maximum of 8 essential tables/figures, overall.

When preparing their manuscript, authors should follow the IMRaD guidelines (***I***ntroduction, ***M***ethods, ***R***esults, ***a***nd ***D***iscussion), which are recommended by the International Committee of Medical Journal Editors (ICMJE) (J. Pharmacol. Pharmacother. 2010, 1, 42–58). When preparing the Methods section, authors should refer to the Editorial Policy on Sample Size and Statistics.

2) Brief Reports.

This contribution type is intended for manuscripts describing studies with straightforward research designs, pilot or "proof of concept" studies, and replications.

- Word Limit: 2,000 (excluding abstract, references, tables or figures).
- Abstract: 200 words.
- References: 20 are recommended; more are permissible, for cause.
- Figures/Tables: a maximum of 2 essential tables/figures, overall.

As for Original Articles, when preparing their manuscript, authors should follow the IMRaD guidelines and comply with the Editorial Policy on Sample Size and Statistics.

3) Clinical Case Reports.

Clinical Case Reports detail key elements of cases where there is novelty in the presentation, pathology or treatment, and where that novelty will inform clinicians and researchers about rare presentations or novel ideas. This category will often be appropriate to rare biological or psychological presentations. Reports of rigorously conducted studies employing single-case experimental designs are especially welcome.

Every effort should be taken to ensure the anonymity of the patient concerned, and any clinicians not involved as authors. If there is any potentially identifiable information, then it is the responsibility of the authors to obtain approval from the local Institutional Review Board (IRB) (or equivalent) for the case to be reported, and a copy of that approval should be made available to the Editor on request.

- Word Limit: 2,000 (excluding abstract, references, tables or figures).
- Abstract: 200 words.
- References: 20.
- Figures/Tables: a maximum of 2 essential tables/figures, overall.

4) Reviews.

These articles critically review the status of a given research area and propose new directions for research and/or practice. Both systematic and meta-analytic review papers are welcomed if they review a literature that is advanced and/or developed to the point of warranting a review and synthesis of existing studies. Reviews of topics with a limited number of studies are unlikely to be deemed as substantive enough for a Review paper. The journal does not accept papers that merely describe or compile a list of previous studies without a critical synthesis of the literature that moves the field the forward.

- Word Limit: 7,500 (excluding abstract, references, tables or figures).
- Abstract: 250 words.
- References: 100.
- Figures/Tables: no maximum, but should be appropriate to the material covered.

All Review articles must follow the PRISMA Guidelines (www.prisma-statement.org), summarized in a 2009 *J. Clin. Epidemiol.* article by Moher et al. entitled *"Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement"* (DOI: 10.1016/j.jclinepi.2009.06.005), freely available for download in both English and Spanish.

Authors who choose this contribution type must complete the Review Checklist upon submission of the manuscript, an example of which can be found here). This example is for informational purposes only. During the submission process, authors will be prompted to complete the Review Checklist directly in ScholarOne. The rationale for any unchecked items on the Review Checklist must be explicitly described in the accompanying Cover Letter.

5) An Idea Worth Researching

This is a contribution type where authors propose an idea that may not yet have adequate empirical support or be ready for full empirical testing, but holds great promise for advancing research of eating disorders. Authors are encouraged to write a piece that is bold, forward looking, and suggestive of new and exciting avenues for research and/or practice in the field.

- Word Limit: 2,000 (excluding abstract, references, tables or figures).
- Abstract: 200 words.
- References: 20 recommended (more permitted, for cause).
- Figures/Tables: a maximum of 2 essential tables/figures, overall.

6) Commentaries

Commentaries are solicited by the Editors when multiple perspectives on or critical appraisal of an article would assist in placing that article in context. Unsolicited commentaries are not considered for publication.

- Word Limit: 2,000 (excluding abstract, references, tables or figures).
- Abstract: 200 words.
- References: 5, using the footnote format rather than the journal's standard format.
- Figures/Tables: none.

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4. PREPARING THE SUBMISSION

Parts of the Manuscript

The submission should be uploaded in separate files: 1)manuscript file; 2) figures;3) Supporting Information file(s).

1. Manuscript File

The text file should contain all of the manuscript text, including the tables and figure legends. The text should be presented in the following order:

1. Title
2. A short running title of less than 40 characters
3. The full names of all authors
4. The authors' institutional affiliations where the work was conducted, with a footnote for an author's present address if different to where the work was carried out
5. Acknowledgements
6. Abstract and Keywords
7. Main text
8. References
9. Tables (each table complete with title and footnotes)
10. Figure legends

Title

The title should be short and informative, containing major keywords related to the content. The title should not contain abbreviations (see Wiley's best practice SEO tips).

Authorship

For details on eligibility for author listing, please refer to the journal's Authorship policy outlined in Section 5 of these Author Guidelines.

Acknowledgments

Contributions from individuals who do not meet the criteria for authorship should be listed, with permission from the contributor, in an Acknowledgments section. Financial and material support should also be mentioned. Thanks to anonymous reviewers are not appropriate.

Conflict of Interest Statement

Authors will be asked to provide a conflict of interest statement during the submission process. See the journal's policy on Conflict of Interest outlined in Section 5 of these Author Guidelines. Authors should ensure they liaise with all co-authors to confirm agreement with the final statement.

Abstract

The word maximum and abstract format varies by contribution type (see above). When an abstract is required, the abstract should be typed as a single paragraph. The journal requires **structured abstracts** with three exceptions: the journal will continue to use unstructured abstracts for Clinical Case Reports, Commentaries and "An Idea Worth Researching".

Structured abstracts should be organized as follows: **Objective**: briefly indicate the primary purpose of the article, or major question addressed in the study. **Method**: indicate the sources of data, give brief overview of methodology, or, if review article, how the literature was searched and articles selected for discussion. For research based articles, this section should briefly note study design, how participants were selected, and major study measures. **Results**: summarize the key findings. **Discussion**: indicate main clinical, theoretical, or research applications/implications.

Keywords

Please provide five to seven keywords. Keywords should be taken from those recommended by the US National Library of Medicine's Medical Subject Headings (MeSH) browser list at www.nlm.nih.gov/mesh.

Main Text

- Authors should refrain from using terms that are stigmatizing or terms that are ambiguous. For further explanation and examples, see the 2016 IJED article by Weissman et al. entitled "*Speaking of that: Terms to avoid or reconsider in the eating disorders field*" (DOI:10.1002/eat.22528.
- The text should be divided as outlined in Section 3 "Manuscript Categories and Requirements".
- Manuscripts reporting original research should follow the **IMRaD guidelines** (***I***ntroduction, (***M***ethods, ***R***esults, ***a***nd ***D***iscussion), which are recommended by the International Committee of Medical Journal Editors (ICMJE) (J. Pharmacol. Pharmacother. 2010, 1, 42–58).
- To facilitate evaluation by the Editors and Reviewers, each manuscript page should be numbered; the text should be double-spaced; and line numbers should be applied (restarting from 1 on each page). Instructions on how to implement this feature in Microsoft Word are givenhere.
- The journal uses US spelling. Authors may submit using any form of English as the spelling of accepted papers is converted to US English during the production process.
- Footnotes to the text are not allowed and any such material should be incorporated into the text as parenthetical matter.
- It is the primary responsibility of the authors to proofread thoroughly and ensure correct spelling and punctuation, completeness and accuracy of references, clarity of expression, thoughtful construction of sentences, and legible appearance prior to the manuscript's submission.
- Authors for whom English is not their first language are encouraged to seek assistance from a native or fluent English speaker to proof read the manuscript prior to submission. Wiley offers a paid service that provides expert help in English language editing—further details are given below.
- Articles reporting data taken from or deposited elsewhere should refer to the journal policy on Data Storage and Documentation in Section 5 (below).

References

References in all manuscripts should follow the style of the American Psychological Association (6th edition), except in regards to spelling. The APA website includes a range of resources for authors learning to write in APA style, including An overview of the Publication Manual of the American Psychological Association, Sixth Edition; includes free tutorials on APA Style basics and an APA Style Blog. Please note APA referencing style requires that a Digital Object Identifier (DOI) be provided for all references where available.

Tables

Each table must be numbered in order of appearance in the text with Arabic numerals and be cited at an appropriate point in the text. Tables should be self-contained and complement, not duplicate, information contained in the text. They should be supplied as editable files (i.e., created in Microsoft Word or similar), not pasted as images. Legends should be concise but comprehensive—the table, legend, and footnotes must be understandable without reference to the text. All abbreviations must be defined in footnotes. Footnote symbols: †, ‡, §, ¶, should be used (in that order) and *, **, *** should be reserved for P-values. Statistical measures such as standard deviation (SD) or standard error of the mean (SEM) should be identified in the headings. The journal's Editorial Policy on Sample Size and Statistics is given in Section 5.

Figure Legends/Captions

Each figure caption should have a brief title that describes the entire figure without citing specific panels, followed by a description of each panel. Captions should be concise but comprehensive—the figure and its caption must be understandable without reference to the text. Be sure to explain abbreviations in figures even if they have already been explained in-text. Axes for figures must be labeled with appropriate units of measurement and description. Include definitions of any symbols used and units of measurement.

2. Figures

Although authors are encouraged to send the highest quality figures possible, for peer-review purposes, a wide variety of formats, sizes, and resolutions are accepted. Click here for the basic figure requirements for figures

submitted with manuscripts for initial peer review, as well as the more detailed post-acceptance figure requirements.

Helvetica typeface is preferred for lettering within figures. All letters, numbers and symbols must be at least 2 mm in height. Courier typeface should be used for sequence figures. Figures should be numbered consecutively with Arabic numerals, and they should be numbered in the order in which they appear in the text.

Figures should be submitted as electronic images to fit either one (55 mm, 2 3/16", 13 picas), two (115 mm, 4 1/2", 27 picas), or three (175 mm, 6 7/8", 41 picas) columns. The length of an illustration cannot exceed 227 mm (9"). Journal quality reproduction requires grey scale and color files at resolutions of 300 dpi. Bitmapped line art should be submitted at resolutions of 600–1200 dpi.

Figures submitted in color will be reproduced in color online free of charge. Authors wishing to have figures printed in color in hard copies of the journal will be charged a fee by the Publisher; further details are given elsewhere in these Author Guidelines. Authors should note however, that it is preferable that line figures (e.g., graphs) are supplied in black and white so that they are legible if printed by a reader in black and white.

3. Supporting Information Files(s)

Supporting information is information that is not essential to the article, but provides greater depth and background. If an article is accepted for publication, the Supporting Information is hosted online together with the article and appears without editing or typesetting. It may include, but is not limited to, video clips, large sections of tabular data, program code, or electronic graphical files that are otherwise not suitable inclusion in the main article. Click here for Wiley's FAQs on Supporting Information.

Note: if data, scripts, or other artefacts used to generate the analyses presented in the paper are available via a publicly available data repository, authors should include a reference to the location of the material within their paper.

Supporting Information must be submitted at the time of peer review. The availability of this material should be indicated in the text of the article where appropriate.

General Style Points

The following points provide general advice on formatting and style.

- **Terminology**: Terms such as "anorexics" or "bulimics" as personal pronouns, referring to groups of individuals by their common diagnosis, should be avoided. Terms like "individuals with anorexia nervosa", "people with bulimia nervosa", or "participants with eating disorders" should be used instead. Note, "participants" should be used in place of "subjects".
- **Abbreviations**: In general, terms should not be abbreviated unless they are used repeatedly and the abbreviation is helpful to the reader. Initially, use the word in full, followed by the abbreviation in parentheses. Thereafter use the abbreviation only.
- **Units of measurement**: Measurements should be given in SI or SI-derived units. Visit the Bureau International des Poids et Mesures (BIPM) website at www.bipm.fr for more information about SI units.
- **Numbers** under 10 should be spelt out, except for: measurements with a unit (8 mmol/L); age (6 weeks old), or lists with other numbers (11 dogs, 9 cats, 4 gerbils).
- **The word "data"** is plural; therefore, text should follow accordingly (for example, "The data show…the data are … the data were…").
- **Sex/Gender & Age**: When referring to sex/gender, "males" and "females" should be used only in cases where the study samples include both children (below age 18) and adults and only if word limit precludes using terms such as "male participants/female participants," "female patients/male patients"; when the participants comprise adults only, the terms "men" and "women" should be used. In articles that refer to children, "boys" and "girls" should be used.
- **Trade Names**: Chemical substances should be referred to by the generic name only. Trade names should not be used. Drugs should be referred to by their generic names. If proprietary drugs have been used in the

study, refer to these by their generic name, mentioning the proprietary name and the name and location of the manufacturer in parentheses.

- **Statistics**: Authors should adhere to the journal's policy on Sample Size and Statistics when reporting studies. For information on how to present p values and other standard measurements see IJED Statistical Formatting Requirements.

Wiley Author Resources

Manuscript Preparation Tips: Wiley has a range of resources for authors preparing manuscripts for submission available here. In particular, authors may benefit from referring to Wiley's best practice tips on Writing for Search Engine Optimization.

Editing, Translation, and Formatting Support: Wiley Editing Services can greatly improve the chances of a manuscript being accepted. Offering expert help in English language editing, translation, manuscript formatting, and figure preparation, Wiley Editing Services ensures that the manuscript is ready for submission.

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5. EDITORIAL POLICIES AND ETHICAL CONSIDERATIONS

Editorial Review and Acceptance

Rigorous evaluation of submitted material by expert reviewers is essential to ensuring that the journal achieves its mission. To facilitate timely feedback to authors and to avoid burdening expert reviewers unduly, the journal utilizes a two-tiered review process for all contributions (whether invited or unsolicited). The first tier involves an initial editorial preview to be implemented within days of receipt of a submission. If the manuscript is considered to have potential for publication in the journal, the second tier involves peer review, typically by two to three experts. The Editor-in-Chief, at times, may delegate final decision making authority to one of the Associate Editors.

Editorial Pre-Screen. The Editor-in-Chief will pre-screen all submissions to determine the suitability based on fit with the journal's scope and scholarly merit. Manuscripts deemed to fall outside of the journal's scope or to be of limited merit (e.g., because of substantial methodological flaws or insufficiently novel contribution to the field) will not be sent out for peer review. Pre-screening of articles does not involve detailed evaluation. Authors receiving a negative decision at this stage may appeal by sending a concise rationale to the Editor-in-Chief.

Peer Review. Submissions that, based on editorial pre-screening, are considered of potential suitability for the journal are forwarded to experts in the field—ad hoc reviewers or members of the journal's Editorial Board—for detailed evaluation and feedback. Expert reviewers are asked to evaluate the merit of a manuscript based on the quality of the methods applied, presentation, and overall contribution to the field. Reviewers are instructed to offer a thorough, constructive, and timely evaluation of all aspects of the submission and to enumerate strengths and weaknesses. Authors are invited to recommend expert reviewers.

Exceptions to the peer-review procedures described above: Commentaries are evaluated only by the Editor handling the submission and one additional reviewer.

Wiley's policy on confidentiality of the review process is available here: www.wileypeerreview.com/reviewpolicy.

Transferable Peer Review. To enable rapid publication of good quality research that is unable to be accepted for publication by the *International Journal of Eating Disorders*, we work together with Wiley's Open Access journal: *Health Science Reports*. Authors may be offered the option of having their manuscript (inc. any Supporting Information), along with any related peer reviews, automatically transferred for consideration by the Editor of *Health Science Reports*. Authors taking up the offer to transfer will not need to reformat or rewrite their manuscript at that stage, and a publication decision will be made a short time after the transfer has taken place.

The Editor of *Health Science Reports* will accept submissions that report well-conducted research that reaches the standard acceptable for publication. *Health Science Reports* is part of the Wiley Open Access portfolio (www.wileyopenaccess.com), and thus Article Publication Fees apply. For more information, please go to the journal homepage: onlinelibrary.wiley.com/journal/10.1002/(ISSN)2398-8835.

Editorial Policy on Sample Size and Statistics

The Methods section should include a statement about sample selection, response rate, and other factors that would impact selection or response bias and, in turn, representativeness of the sample. Inclusion of small samples requires justification and authors should be mindful of the recommendations concerning minimal sample sizes in subfields (e.g., genetic research, instrument development, etc., where adequate samples may number in the hundreds). Authors also are asked to provide information about reliability and validity of study measures as applicable to their sample.

If the study involves qualitative data, authors need to include a statement about sample size in relation to theme saturation. We recommend that authors review the BMJ checklist for studies involving qualitative methods and conduct and report their analyses accordingly.

If the work involves cross-cultural assessment or assessment in a new language or study population, authors should provide information about local literacy in the language of assessment, the validity of (or process for validating) a translation of an assessment, and for inclusion of regional samples, a statement about the representativeness of the regional sample (or distinction from) the national sample. If statistical analyses are employed, effect size estimates should be reported in the Results section.

For additional detail regarding statistical requirements for the manuscript, see IJED Statistical Formatting Requirements. For more detailed background information on statistical analyses and their rationale authors are referred to IJED Statistical Reporting Guidelines .

Manuscripts reporting statistical tests without effect size estimates may be rejected without review.

Guidelines for Genetic Studies

Authors of manuscripts describing association studies should note that the *International Journal of Eating Disorders* has adopted Methods guidelines developed and published by the *American Journal of Medical Genetics Part B: Neuropsychiatric Genetics*. These guidelines recommend minimum sample sizes; in the case of positive findings, an adequately powered independent replication sample; and adjustments for multiple comparisons. As is required for all papers, the guidelines also require that authors report effect size estimates. For a complete description, please refer to the AJMGB Editorial Policy on Association Studies described in their Author Guidelines.

Please note, when referring to genetic material, the names of genes should be spelled out in full the first time they appear in the text, after which an italicized abbreviation can be substituted. Sequence variants should be described in the text and tables using both DNA and designations whenever appropriate. Sequence variant nomenclature must follow the current Human Genome Variation Society (HGVS) guidelines; see varnomen.hgvs.org, where examples of acceptable nomenclature are provided.

Data Storage and Documentation

The *International Journal of Eating Disorders* encourages data sharing wherever possible, unless this is prevented by ethical, privacy, or confidentiality matters. Authors publishing in the journal are therefore encouraged to make their data, scripts, and other artefacts used to generate the analyses presented in the paper available via a publicly available data repository; however, this is not mandatory. If the study includes original

data, at least one author must confirm that he or she had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

Human Studies and Subjects

For manuscripts reporting studies that involve human participants, a statement identifying the ethics committee that approved the study and confirmation that the study conforms to recognized standards is required, for example: Declaration of Helsinki; US Federal Policy for the Protection of Human Subjects ; or European Medicines Agency Guidelines for Good Clinical Practice.

Every effort should be taken to ensure the anonymity of the patient concerned, and any clinicians not involved as authors. If there is any potentially identifiable information, then it is the responsibility of the authors to seek and obtain approval from the local Institutional Review Board (IRB) (or equivalent) for the case to be reported, and a copy of that approval should be made available to the Editor on request.

Images and information from individual participants will only be published where the authors have obtained the individual's free prior informed consent. Authors do not need to provide a copy of the consent form to the publisher; however, in signing the author license to publish, authors are required to confirm that consent has been obtained. Wiley has a standard patient consent form available for use.

Animal Studies

A statement indicating that the protocol and procedures employed were ethically reviewed and approved, as well as the name of the body giving approval (e.g., in the USA, the Institutional Review Board (IRB) or Institutional Animal Care and Use Committee (IACUC)), must be included in the Methods section of the manuscript. Authors are encouraged to adhere to animal research reporting standards, for example the ARRIVE reporting guidelines for reporting study design and statistical analysis; experimental procedures; experimental animals and housing and husbandry. Authors should also state whether experiments were performed in accordance with relevant institutional and national guidelines for the care and use of laboratory animals:

- US authors should cite compliance with the US National Research Council's Guide for the Care and Use of Laboratory Animals, the US Public Health Service's Policy on Humane Care and Use of Laboratory Animals, and Guide for the Care and Use of Laboratory Animals.
- UK authors should conform to UK legislation under the Animals (Scientific Procedures) Act 1986 Amendment Regulations (SI 2012/3039).
- European authors outside the UK should conform to Directive 2010/63/EU.

Clinical Trial Registration

The journal requires that clinical trials are prospectively registered in a publicly accessible database and clinical trial registration numbers are included in all papers that report their results. Authors are asked to include the name of the trial register and the clinical trial registration number at the end of the Abstract. If the trial is not registered, or was registered retrospectively, the reasons for this should be explained.

Research Reporting Guidelines

Accurate and complete reporting enables readers to fully appraise research, replicate it, and use it. Authors are encouraged to adhere to any research reporting standards relevant to their study. A list of the most well-known guidelines is given here:

- Consolidated Standards of Reporting Trials (CONSORT)
- Standard Protocol Items: Recommendations for Interventional Trials (SPIRIT)
- Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)
- PRISMA Protocols (PRISMA-P)
- STrengthening the Reporting of OBservational studies in Epidemiology (STROBE)
- CARE: Guidelines to increase the accuracy, transparency, and usefulness of case reports

- Consolidated criteria for reporting qualitative research (COREQ) by Tong et al. (*Int. J. Qual. Health Care* (**2007**) *19*(6): 349–357)
- STARD 2015: An Updated List of Essential Items for Reporting Diagnostic Accuracy Studies
- TRIPOD: Transparent Reporting of a multivariable prediction model for Individual Prognosis Or Diagnosis
- Consolidated Health Economic Evaluation Reporting Standards (CHEERS) by Husereau et al. (*BMC Medicine*(**2013**) *11*: 80; DOI: 10.1186/1741-7015-11-80)
- The EQUATOR Network: an author's one-stop-shop for writing and publishing high-impact health research
- FORCE11: Recommended reporting guidelines for life science resources
- ARRIVE (Animal Research: Reporting of In Vivo Experiments) guidelines
- Guidance for the Description of Animal Research in Scientific Publications from the US National Research Council's Institute for Laboratory Animal Research
- The Gold Standard Publication Checklist from Hooijmans et al. (ATLA (**2010**) *38*: 167–182)

Species Names

Upon its first use in the title, abstract, and text, the common name of a species should be followed by the scientific name (genus, species, and authority) in parentheses. For well-known species, however, scientific names may be omitted from article titles. If no common name exists in English, only the scientific name should be used.

Sequence Data

Nucleotide sequence data can be submitted in electronic form to any of the three major collaborative databases: DDBJ, EMBL, or GenBank. It is only necessary to submit to one database as data are exchanged between DDBJ, EMBL, and GenBank on a daily basis. The suggested wording for referring to accession-number information is: ‘These sequence data have been submitted to the DDBJ/EMBL/GenBank databases under accession number U12345’. Addresses are as follows:

- DNA Data Bank of Japan (DDBJ): www.ddbj.nig.ac.jp
- EMBL Nucleotide Archive: ebi.ac.uk/ena
- GenBank: www.ncbi.nlm.nih.gov/genbank

Proteins sequence datashould be submitted to either of the following repositories.

- RCSB Protein Data Bank (PDB): www.rcsb.org/pdb.
- Protein Information Resource (PIR): pir.georgetown.edu
- SWISS-PROT: expasy.ch/sprot/sprot-top

Conflict of Interest

The journal requires that all authors disclose any potential sources of conflict of interest. Any interest or relationship, financial or otherwise that might be perceived as influencing an author's objectivity is considered a potential source of conflict of interest. These must be disclosed when directly relevant or directly related to the work that the authors describe in their manuscript.

Potential sources of conflict of interest include, but are not limited to: employment at a for-profit treatment center where data collection occurred, employment at a for-profit corporation if the corporation manufactures or sells products used in the research (e.g., medications; equipment used in a treatment tested as part of the research), patent or stock ownership, membership of a company board of directors, membership of an advisory board or committee for a company, and consultancy for or receipt of speaker's fees from a company.

The existence of a conflict of interest does not preclude publication. It is the responsibility of the corresponding author to review this policy with all authors and collectively to disclose with the submission ALL pertinent commercial and other relationships. These conflicts of interest should be disclosed in the relevant section of the submission questionnaire and in the manuscript. If the authors have no conflict(s) of interest to declare, they must also state this.

Funding

Authors should list all funding sources in the Acknowledgments section. Authors are responsible for the accuracy of their funder designation. If in doubt, please check the Open Funder Registry for the correct nomenclature: www.crossref.org/services/funder-registry.

Authorship

The list of authors should accurately illustrate who contributed to the work and how. All those listed as authors should qualify for authorship according to the following criteria:

1. Have made substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data;
2. Been involved in drafting the manuscript or revising it critically for important intellectual content;
3. Given final approval of the version to be published. Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content; and
4. Agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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Appendix B: Measures Used in the Present Study

Single-item question to assess eating behaviours

Within the last 30 days did you do any of the following?

Exercise to lose weight

Diet to lose weight

Vomit or take laxatives to lose weight

Take diet pills to lose weight

None of the above

Eating Disorders Screen for Primary Care

1. Are you satisfied with your eating patterns?	Yes	No
2. Do you ever eat in secret?	Yes	No
3. Does your weight affect the way you feel about yourself?	Yes	No
4. Have any members of your family suffered with an eating disorder?	Yes	No

5. Do you currently suffer with or have you ever suffered in the past with an eating disorder?

Yes No

Patient Health Questionnaire Depression Scale

Over the last two weeks, how often have you been bothered by any of the following problems?

(0)	(1)	(2)	(3)
Not at all	Several days	Over half the days	Nearly every day

1. Little interest or pleasure in doing things

2. Feeling down, depressed, or hopeless

3. Trouble falling or staying asleep, or sleeping too much

4. Feeling tired or having little energy

5. Poor appetite or overeating

6. Feeling bad about yourself - or that you are a failure or have let yourself or your family down

7. Trouble concentrating on things - such as reading the newspaper or watching television

8. Moving or speaking so slowly that other people could have noticed. Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual?

9. Thoughts that you would be better off dead, or of hurting yourself

Generalized Anxiety Disorder 7

Over the last two weeks, how often have you been bothered by the following problems?

(0)	(1)	(2)	(3)
Not at all	Several days	Over half the days	Nearly every day

1. Feeling nervous, anxious, or on edge

2. Not being able to stop or control worrying

3. Worrying too much about different things

4. Trouble relaxing 5. Being so restless that it's hard to sit still

6. Becoming easily annoyed or irritable

7. Feeling afraid as if something awful might happen

Negative Social Exchange subscale of the Multidimensional Health Profile:

Psychological Functioning

When answering each of the following questions, please think only about close friends or close family who are adults.

(1)	(2)	(3)	(4)	(5)
Never				Very Often

1. Over the past year, how often were your close friends or close family angry, hostile, or impatient with you?

2. Over the past year, how often did your close friends or close family make fun of you, gossip about you, or reject you?

3. Over the past year, how often did your close friends or close family act insensitive or inconsiderate or take you for granted?

4. Over the past year, how often were your close friends or close family demanding, distracting, or in your way?

Interpersonal Needs Questionnaire

The following questions ask you to think about yourself and other people. Please respond to each question by using your own current beliefs and experiences, NOT what you think is true in general, or what might be true for other people. Please base your responses on how you've been feeling recently. Use the rating scale to find the number that best matches how you feel. There are no right or wrong answers: we are interested in what you think and feel.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Not at all true for me			Somewhat true for me			Very true for me

1. These days, the people in my life would be better off if I were gone.
2. These days, the people in my life would be happier without me.
3. These days, I think I am a burden on society.
4. These days, I think my death would be a relief to the people in my life.
5. These days, I think the people in my life wish they could be rid of me.
6. These days, I think I make things worse for the people in my life.
7. These days, other people care about me.
8. These days, I feel like I belong.
9. These days, I rarely interact with people who care about me.
10. These days, I am fortunate to have many caring and supportive friends.
11. These days, I feel disconnected from other people.
12. These days, I often feel like an outsider in social gatherings.
13. These days, I feel that there are people I can turn to in times of need.
14. These days, I am close to other people.
15. These days, I have at least one satisfying interaction every day

Self-Compassion Scale-Short Form

HOW I TYPICALLY ACT TOWARDS MYSELF IN DIFFICULT TIMES

Please read each statement carefully before answering. To the left of each item, indicate how often you behave in the stated manner, using the following scale:

(1) (2) (3) (4) (5)

Almost never Almost always

1. When I fail at something important to me I become consumed by feelings of inadequacy.

2. I try to be understanding and patient towards those aspects of my personality I don't like.

3. When something painful happens I try to take a balanced view of the situation.

4. When I'm feeling down, I tend to feel like most other people are probably happier than I am.

5. I try to see my failings as part of the human condition.

6. When I'm going through a very hard time, I give myself the caring and tenderness I need.

7. When something upsets me I try to keep my emotions in balance.

8. When I fail at something that's important to me, I tend to feel alone in my failure.

9. When I'm feeling down I tend to obsess and fixate on everything that's wrong.

10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.

11. I'm disapproving and judgmental about my own flaws and inadequacies.

12. I'm intolerant and impatient towards those aspects of my personality I don't like.

Perceived Stigma Scale

The following are questions about feelings and emotions you have had about your sexual orientation. These feelings and emotions are natural and experienced by many individuals. Please indicate how much you agree with the statements on the following scale.

(1)	(2)	(3)	(4)	(5)
Definitely Disagree	Somewhat Disagree	Neither Agree Nor Disagree	Somewhat Agree	Definitely Agree

1. I have felt odd/abnormal because of my sexual orientation.

2. There have been times when I have felt ashamed because of my sexual orientation.

3. I have never felt self-conscious when I am in public.

4. People have treated me differently because of my sexual orientation.

5. I have never felt embarrassed because of my sexual orientation.

6. I feel others have looked down on me because of my sexual orientation.

7. I have found that people say negative or unkind things about me behind my back because of my sexual orientation.

8. I have been excluded from work, school, and/or family functions because of my sexual orientation.

Appendix C: Correlations Between Predictor Variables Used in Logistic for Each Group

Table 5

Summary of Intercorrelations Between Predictor Variables for Gay Men and Lesbian Women

	Depression	Anxiety	Negative social exchange	Thwarted belongingness	Perceived stigma	Self compassion
Depression	-	.609***	.560***	.731***	.342**	-.522***
Anxiety	.775***	-	.412***	.427***	.413***	-.595***
Negative social exchange	.483***	.496***	-	.494***	.429***	-.476***
Thwarted belongingness	.672***	.617***	.501***	-	.360***	-.551***
Perceived stigma	.388**	.374**	.227	.139	-	-.383***
Self compassion	-.456***	-.580***	-.278*	-.449***	-.406**	-

Note. Correlations for gay men are presented above the diagonal. Correlations for lesbian women are presented below the diagonal; *$p < .05$.

**$p < .01$. ***p < .001.

Table 6

Summary of Intercorrelations Between Predictor Variables for TGNC Adults

	Depression	Anxiety	Negative social exchange	Thwarted belongingness	Perceived stigma	Self compassion
Depression	-	.763***	.390***	.549***	.204*	-.371***
Anxiety		-	.447***	.362***	.317***	-.337***
Negative social Exchange			-	.469***	.201*	-.208*
Thwarted belongingness				-	.132	-.424***
Perceived Stigma					-	-.269**
Self compassion						-

*Note. *p < .05. **p < .01.* ***p < .001.